

Missouri Department of Natural Resources

OPERATOR CERTIFICATION UNIT



WATER & WASTEWATER DIGEST

Winter 2023

Computer-Based Exams Coming in 2023

The Missouri Department of Natural Resources is pleased to announce some exciting improvements coming for operator certification exams for drinking water, wastewater and CAFO operators. As early as April 1, 2023, the department will begin offering computer-based certification exams, which will eventually replace paper-and-pencil exams.

The department recently contracted with Water Professionals International (WPI), previously known as Association of Boards of Certification, for exam services. The contract, which begins Jan. 1, 2023, will give the department access to exam material and solve logistical and equipment hurdles by administering computer-based exams in testing centers already located around the state and operated by PSI, Inc.

Get Scheduled for an Exam Faster

Once the department receives and processes an exam application, the department will provide the examinee with instructions to self-schedule an exam session at a date and time that works best for them, replacing the need to wait for monthly group exam sessions.

Receive Immediate Exam Results

Examinees will receive their exam score immediately upon completing the computer-based exam. This replaces the current four-week wait to receive exam results.

Choose Between In-Person or Remotely Proctored Exam

Examinees may choose to take an exam at one of the testing centers using the provided computer equipment or they may take a remotely proctored exam, if the examinee has the appropriate equipment and testing location available. Look for more information on this as we get closer to roll out.

In-Person Exam Locations

The contract includes one in-person test center to be located in each of the department's regions, plus one in central Missouri.

Remotely Proctored Exams

To take a remotely proctored exam, the examinee must have a laptop or desktop computer that has a camera and microphone. An examinee cannot use a tablet, iPad or iPhone to take an exam. Once the exam begins, the software prevents the examinee from opening additional tabs or browsers. An exam administrator watches through the camera and software will flag suspicious eye movement and key strokes. The test session is recorded for future

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reference, if necessary. The testing company provides a YouTube training video and live customer support for any technical issues that arise during a remote testing session.

No Break in Exam Availability

The department plans to continue to offer paper-and-pencil exams throughout the onboarding process for computer-based exams. The department anticipates that between April 1 and July 1 2023, examinees will be able to choose either paper-and-pencil exams or computer-based exams.

Exam Content

The content for both types of exams will not change during this transition period. The department plans to update the exams periodically once we have transitioned fully to computerized exams. Content will continue to reflect important and relevant skills and knowledge necessary for work in the industry. Math formulas will continue to be available as a reference resource during computer-based exams.

Fees

Fees will not change. Wastewater and CAFO exams remain \$45 and drinking water treatment and distribution exams are \$50 each.

Timeline

The contract begins Jan. 1, 2023. The department anticipates having computer-based exams available as early as April 1, 2023. The department plans to have an overlap of time where both traditional paper and computer-based exams are available. After successfully onboarding computer-based exams, the department will phase out paper exams by June 30, 2023.

Until we have more details in place, please continue to register for exam sessions based on the department's [upcoming schedule](#).

We are excited about the changes coming for our certification exam processes, along with all of the benefits. We ask for your patience as we work to transition smoothly. If you have questions, please contact the department's Operator Certification Unit at 573-751-1600 or by email at opcert@dnr.mo.gov. We will share additional details as they become available.

Lead Service Line Inventory: Creation and Submittal

Hopefully, everyone is aware of the new requirements for drinking water systems in the Lead and Copper Rule Revisions (LCRR) for initial Lead Service Line Inventories (LSLI). A better description may be to call it simply "service line inventories." The inventories require water systems to identify the material composition for each water service line. The inventory creates a record that the water system has investigated individual lines and lists the specific material to verify non-lead lines. The water system must document and keep records on file of the actual material for both system-owned and customer-owned portions.

There are many ways to identify the material from which a service line is composed without having to expose the line. The first method is a records review. There are several places to look for records and the best place to start is with the water system. These records can include as-built plans and specifications, local plumbing codes, lead ban records with the date it became effective, tap cards that have the service line material listed, meter installation records and repair records. Community and county records, such as building inspections, occupancy inspections, archived building plans, home construction dates and zoning records can also be helpful. Home construction dates found in tax assessments are additional accurate records to review. These records can give important information about local construction projects and the date that lead should no longer have been in water lines. Records can also reduce the number of homes likely to have lead lines by comparing any lead ban dates with home construction dates. To verify the accuracy of historic records, the water system could check 10% of each record type with a visual examination method. If a visual examination reveals that the paper records are accurate, the water system can expect the other records of the same type to be accurate as well.

In many instances, however, historic records will not identify the material of every service line and additional identification methods will be necessary. Before digging, the water system representative should conduct a basic on-site visual examination. Customers can help identify the portion of the service line they own. The customer can perform their own inspection in their basement or crawl space where the service line enters the structure. The department has created guidance materials on how to perform an inspection, which the water system can provide to the customer. That guidance can be found on the [department's Lead Service Lines webpage](#).

The customer can then give the water system a signed inspection form, along with a photo, which the water system can use to verify the accuracy of their identification. If the water system disagrees with the customer's inspection, the customer can either perform an additional investigation or request assistance from the water system to complete the identification. Another visual inspection technique is for water system staff to inspect the meter pit.

Forming a good relationship with local plumbers can be helpful, because they can notify the water system when a repair has exposed the service line. The plumber or water system can then verify the line's material type. Plumbers may also have records for installations or repairs at specific homes.

For service lines that the water system has not identified using a method described above, excavation will be necessary. There are two main types of excavation: traditional open-trench excavation and vacuum excavation. Both types expose the service line for visual examination and identification. To fully determine the line's material, the water system may need to excavate both sides of the service line ownership (water system-owned and customer-owned).

To identify a full-service line, EPA recommends identification at three locations when visual examination is required. The first is where the service enters the home or building. If possible, the water system can avoid excavating this location by visually inspecting the line inside the structure where it comes through the foundation wall. The other two locations are excavations 4 to 5 feet laterally from both sides of the meter. This will identify the line after any connectors. These three locations allow the water system to identify the materials used to construct the service line. If the water system has verified records for their portion of the service line, the only excavation needed would be on the customer's side.

The department has developed a reporting spreadsheet that the water system must be use to submit an initial LSLI on or before Oct. 16, 2024. If you are responsible for more than one water system, each system must have its own spreadsheet. The spreadsheet is available on the [department's lead service line webpage](#).

The department's lead service line webpage has a variety of useful information to help water systems develop an LSLI. Included are documents that will help customers identify their owned portion of a service line, EPA's



Guidance for Developing and Maintaining a Service Line Inventory, Frequently Asked Questions, Health Effect Information, funding sources and more. Please check the webpage frequently for new information when it becomes available, including helpful videos and handouts for customers.

The department will provide additional EPA guidance and information as it becomes available, such as the Small System Lead Service Line Guidance. For more information, consider attending an upcoming training course about LSLIs, which can be found on the [department's Operator Certification Training Webpage](#).

The department understands the initial LSLI will be a heavy lift for all of us, but we look forward to working together to accomplish this important task. If you have any questions about inventories, spreadsheets or anything else related to the LCRR, please contact Lead and Copper Rule Manager Austen Dudenhoeffer at 573-751-6171 or at austen.dudenhoeffer@dnr.mo.gov.

Total Phosphorus Rule

The department has begun the formal rulemaking process for the Total Phosphorus Rule, 10 CSR 20-7.015. The draft rule language in 10 CSR 20-7.015 proposes reductions in discharges of total phosphorus from domestic wastewater facilities with a daily designed discharge greater than 1 million gallons per day and from major industrial facilities. The target reduction levels may be calculated in four different ways, with additional potential flexibility in facility implementation dates. The draft rule also authorizes nutrient trading to meet new total phosphorus target reduction levels. This proposed rule language was drafted in conjunction with stakeholders through a robust public participation process over more than two years.

Information on this rule, including draft text, is available on the department's [Nutrient Loss Reduction Strategy webpage](#). The department anticipates that the Secretary of State's Office will publish the draft rule in December, when a public notice and comment period will be opened.

Per- and Polyfluoroalkyl Substances (PFAS) Webpage

On June 15, 2022, EPA issued interim updated drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) that replace the advisories EPA issued in 2016. PFOA and PFOS are members of a chemical group called per- and polyfluoroalkyl substances (PFAS).

Health advisory levels were established for PFOA, PFOS, perfluorobutane sulfonate (PFBS) and Hexafluoropropylene oxide dimer acid (HFPO-DA or GenX). While these health advisory levels are currently non-enforceable and non-regulatory, EPA plans to release a proposed rule for PFOA and PFOS in fall 2022 as part of their PFAS Strategic Roadmap. By fall 2023, EPA also plans to promulgate a final rule that establishes national primary drinking water standards for PFOA and PFOS. This rule would set enforceable maximum contaminant levels and require public water supply monitoring.

In preparation for this new drinking water rulemaking and other current and future PFAS monitoring projects and directives, the department has developed a PFAS webpage. There you will find additional information and resources, as well as an overview of both department and EPA coordination, sampling and inventory-gathering efforts. Additionally, the webpage provides a link to the Missouri PFAS Viewer Tool, which makes available results of all public drinking water PFAS sampling conducted at public water supplies located throughout Missouri. For more information, including access to the PFAS Viewer Tool, visit the [department's PFAS webpage](#).

For questions regarding the Missouri PFAS Viewer, please call the Public Drinking Water Branch at 573-751-1077.

The National Pollutant Discharge Elimination System (NPDES) Permit Life Cycle

It can be confusing trying to navigate the National Pollutant Discharge Elimination System (NPDES) permit renewal process, but the department is here to help.

Permits expire approximately every five years. Permittees with site-specific permits are required to submit renewal applications 180 days before the permit expires. The expiration date is on the permit's first page. Permittees with general permits are required to submit renewal applications 60 days before expiration. Different permit types require different renewal applications. For help determining which application you need, or to submit your renewal application via e-mail, contact cleanwaterpermits@dnr.mo.gov.

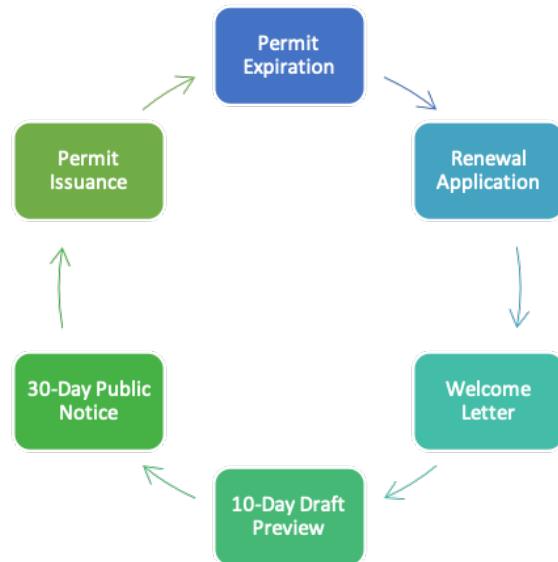
After the department receives an application, a permit writer reviews the application. Within 15 days of receipt, the permit writer will email a welcome letter and ask for additional information that might be needed to complete the permit. Please make sure to regularly check the email address listed on the application.

Next, the permit writer will write the permit and send a draft for a 10-day preview. This is an opportunity to look for mistakes, ask questions and request edits. As the facility operator and expert, your input on new permit conditions is important. The permit is based on hundreds of applicable statutes and regulations. There may be new permit conditions required by law added to the permit. Permit writers can also make mistakes. Sometimes there are different ways to implement a law, meaning that some permit conditions can be flexible. For these reasons, the 10-day preview is a time for clarification and negotiation.

After the 10-day preview, the department will post the permit on the department's website for a 30-day public comment period. Anyone, including facility representatives, may comment during this comment period. This is an opportunity to look at the public notice listing to ensure that the changes discussed with the permit writer during the 10-day preview period are included.

When the public notice period ends, the permit writer will incorporate changes that resulted from comments and issue the permit. The department will mail the issued permit to the owner's address listed in the permit. Make sure to read the permit to understand its requirements and ask questions if the permit includes anything confusing. If the owner does not receive the permit, contact the permit writer for a replacement copy.

The department plans to host training in 2023 on common permit conditions and tips. To sign up for this training, please contact Jessica Vitale at jessica.vitale@dnr.mo.gov or 573-522-2575.



The Math and the Path to Water Quality Improvements: Total Maximum Daily Loads

In 1972, in response to growing concern about water pollution, Congress amended the federal Water Pollution Control Act of 1948. The amendments collectively became known as the Clean Water Act, which requires states to establish water quality standards for pollutants in surface waters. The state assesses water bodies to determine

whether they meet the standards or are impaired. If a water body is impaired, the department places it on Missouri's 303(d) List of Impaired Waters and requires a total maximum daily load (TMDL). TMDLs are planning tools for restoring or protecting water quality. They establish the maximum amount of a pollutant allowed in the water body, assess sources of the pollutant and determine needed reductions. Put simply, TMDLs provide the "math and the path" to water quality restoration.

The department uses models to estimate the maximum amount of a pollutant a water body can receive and still meet water quality standards. Models consist of various equations that have been developed and validated through scientific studies. Once a pollutant's TMDL is established, the department allocates individual loads to point sources and nonpoint sources.

Point sources are localized discrete sources of pollution and include domestic wastewater treatment facilities, mines and industrial activities. The total point source load is the wasteload allocation (WLA).

Nonpoint sources include overland runoff from agricultural and urban areas, and natural sources. The total nonpoint source load is the load allocation (LA).

TMDLs also include a margin of safety (MOS). The margin of safety is a portion of the TMDL that is reserved to capture the many unknowns in nature and the potential error in the models. The MOS can be implicit, by using conservative approaches in modeling, or it can be an explicit numerical value. The department often uses an MOS of 10 percent of the TMDL. The TMDL calculation is $TMDL = WLA + LA + MOS$.

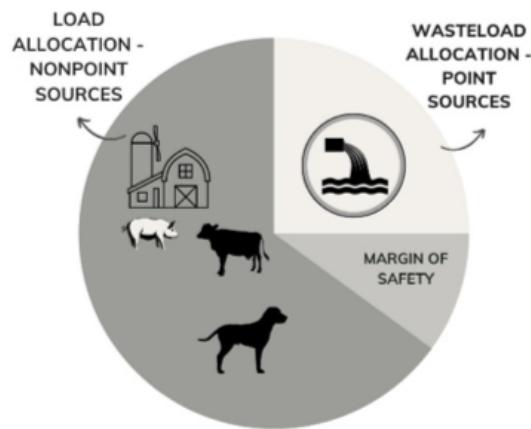
Once EPA approves a TMDL, the department implements it through operating permits for point sources and through voluntary load reductions for nonpoint sources. If the WLA is less than the current point source load, the department will incorporate more stringent permit limits to reduce the loading. The department does not have regulatory authority over nonpoint source pollution; therefore, voluntary action from community members is the main pathway toward reducing nonpoint source pollution.

Although not required by EPA, the department prepares an accompanying Implementation Strategies document to assist volunteers with nonpoint source load reduction planning. The document provides potential load reduction activities, funding sources and other resources to encourage and support voluntary nonpoint source pollutant reduction efforts. TMDLs and Implementation Strategies documents are available on the [department's TMDL website](#).

Cybersecurity Assessments and Resources

EPA is offering free, confidential cybersecurity assessments and technical assistance to water and wastewater utilities. The assessment is in the form of a questionnaire that is completed with utility staff. The technical assistance then uses the questionnaire results to develop a cyber action plan focused on best practices to prepare for, respond to and recover from a cyber incident. By adopting these practices, you can reduce the likelihood that a cyber attack will be successful. It can potentially enable your utility to recover from a cyber attack faster and at a lower cost. Because EPA is offering these assessments and technical assistance virtually, no on-site visit is required. For more information, including how to sign up, please review this [electronic flyer from EPA](#).

TOTAL MAXIMUM DAILY LOAD



Here are some steps you can take to keep your utility safe:

Step 1: Watch out for phishing attacks - Phishing is when a cybercriminal poses as a legitimate party in hope of tricking an individual into clicking on malicious content.

Step 2: Update your password and use a password manager – A password manager can securely store all passwords in one place to help you use different complex passwords.

Step 3: Enable multi-factor authentication (MFA) – MFA is a technique that uses two separate verification factors to gain access to an account.

Step 4: Activate automatic updates – Automatic updates allow you to keep software programs updated without having to check for and install available updates manually.

EPA has also developed the [TTX Tool](#) for Drinking Water and Wastewater Utilities, which provides users with the resources to conduct tabletop exercises. Use the tool to conduct a tabletop exercise with a cybersecurity scenario.

Thank You Water Professionals

The Missouri Department of Natural Resources would like to thank the dedicated men and women who operate and maintain our water infrastructure in Missouri. When historic freezing temperatures over this holiday season left many Missourians without safe drinking water, dedicated water professionals braved the cold and spent countless hours away from their families to make sure safe water kept flowing to households across the state. We are very fortunate to have these individuals working so hard to ensure we have safe water to drink.

Thank You Water Professionals for all that you do!



Check Your Training Hours

Certified operators are encouraged to access training reports by visiting the [department's online operator certification database](#). To log in, the password is the last four digits of your social security number.

You can check training hours, renew certificates online, view and update contact information for public drinking water systems, including the chief operator, sample collector and administrative contact.

For more information, contact the department's Operator Certification Section at 800-361-4827 or 573-751-1600.

Visit Our Website to Find Training and Exam Dates

The Missouri Department of Natural Resources has redesigned and reorganized its website to improve the customer experience, and allow users to find the information they need easier and faster. The department's new website continues to be hosted as dnr.mo.gov.

To find the [Operator Certification page](#), select the Water tab from the department's main page to find a list of upcoming training and exam dates.

When viewing the list of training, you may need to use the arrows on the right to view all of the course information.

The results below are based on the start and end dates in the date range fields above. Only the first 100 courses appear below. Please adjust the date range to see additional training courses. Regardless of the date range chosen, only the first 100 records will appear within that range.

		<input type="button" value="Search"/>	<input type="button" value="Reset"/>					
First Day	Last Day	Title	Course Number	Location	Sponsor	Coordinator	Vouchers	Print
								



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